REMARKS

The foregoing amendment adds language to Claim 1, the only independent claim, to the effect that the claimed method provides a more efficient method of eliminating airborne microorganisms and viruses without the necessity of the sprayed out droplets having to precipitate. In addition, a new claim, Claim 16, has been added to specify that the microorganisms being combated include micrococcus lutens. Support for Claim 16 may be found in Example 2 of the application.

Rejection Under 35 U.S.C. § 103(a)

All of the claims have again been rejected as obvious over WO 97/28883 ("Fox") in view of McCue U.S. Patent No. 5,403,587 ("McCue"). The Examiner's rejection is essentially identical to the rejection made in the Office Action of 6 September 2001. Applicants responded to the earlier Office Action with arguments to the effect that their claims would not have been obvious over Fox and that combining the disclosures of Fox and McCue would still not render Applicants' claims obvious. In response to these arguments, the Examiner now says:

> Applicant's remarks filed on January 30, 2002 in Paper No. 9 with respect to this rejection of claims 1-15 made under 35 U.S.C. 103(a) have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art as discussed below.
>
> Applicant argues that Fox et al. does not expressly disclose the employment of an aerosol spray device comprising a disinfecting or sanitizing compositions in a method for disinfecting or sanitizing a space contaminated by airborne microorganisms and/or viruses. However, as discussed in the previous Office Action (September 6, 2001), Fox et al. discloses that the same aerosol spray device having same spraying functions as the instant claimed device is useful in a method of precipitating airborne particles broadly. For example, the spray device of Fox therein is known to produce the same unipolar charge which provides the droplets with a charge to the same mass ratio of at least ± 1 x 10^{-4} C/Kg (see the abstract). Moreover, one of ordinary skill in the art would recognize that these airborne particles include airborne microorganism and/or viruses. Thus, Fox et al. therein teaches broadly the usefulness of this aerosol spray device. Therefore, one of ordinary skill in the art would have reasonably expected that this aerosol spray device containing the liquid composition of Fox et al. would be useful in a method of disinfecting or sanitizing a space occupied by airborne microorganisms and/or viruses.

Applicant also asserts that the disinfectant and sanitizing compositions of McCue et al. having anti-microbial activity comprising essential oils such as thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood, and organic solvent and a surfactant in amounts within the instant claim are used for hard surface. However, McCue et al. has been cited by the examiner primarily for its teaching that the disinfectant and sanitizing compositions of McCue et al. comprising active ingredients within the instant claims are known to have antimicrobial activity. Applicant is further requested to note that it is well known to have anti-microbial activity. Applicant is further requested to note that it is well settled that "intended use" of a composition or product, e.g., for use on hard surface, is not considered to be a limitation to a composition or product. See, e.g., In re Hack 114, USPQ 161. Moreover, active ingredients in the composition herein are well known in the art processing antimicrobial activity.

Applicant further argues that the instant claimed invention enables airborne microorganism or viruses to be eliminated in a more efficient manner, and that by imparting to the particles an unipolar charge having a charge to mass ratio greater than is imparted to particle sprayed from a standard device, much less disinfectant or sanitizing agent is required. Nevertheless, the record contains no clear and convincing evidence of nonobviousness and/or unexpected results for the claimed method herein over the prior art to support Applicant's arguments. Applicant's data shown in the Examples 1-2 of the specification at pages 15-19 herein have been fully considered with respect to the nonobviousness and/or unexpected results of the claimed invention over the prior art, but are not deemed persuasive since Examples 1-2 in the specification provide no side-by-side comparison with the closest prior art. Therefore, the evidence presented in examples herein is not seen to support the nonobviousness of the instant claimed invention over the prior art.

For the above stated reasons, said claims are properly rejected under 35 U.S.C. 102(a). Therefore, said rejection is adhered to.

Reconsideration is again requested, particularly in view of the foregoing amendment to Claim 1.

The claims have been amended to point out that Applicant's claimed methods, which involve repulsion among the sprayed out droplets, effectively kill microorganisms not attached to dust particles. As indicated in the specification – page 5, line 18, through page 6, line 21 – Applicants' claimed methods control microorganisms because the charged individual droplets are attracted to said microorganisms, including microorganisms attached to dust particles. Fox discloses that an aerosol spray device which generates liquid droplets having Applicants' required charge-to-mass ratio can be used to precipitate airborne particles, such as dust. The Examiner says further that a

person with ordinary skill in the art would recognize that these airborne particles can include airborne microorganisms and viruses and, therefore, it would have been obvious to use such aerosol spray devices to combat these airborne microorganisms.

Applicants wish to point out, however, that the airborne microorganisms which are controlled by the methods of the instant invention include airborne microorganisms that are not attached to airborne dust particles. Support for this Amendment is found in various places in the specification. In addition to the general language on pages 5 and 6 of the specification, specific support for this concept is found in examples 1 and 2. The test microorganism, micrococcus lutens, was tested in a chamber provided with HEPA filtered air. HEPA filtered air effectively removes all particles down to 0.3 microns in size. The abbreviation HEPA refers to "high efficiency particulate air" filters . Enclosed as Appendix A, is a copy of a web page from SAS air purifiers, a manufacturer of such filters that are sold under the trademark Sentry. The chart shows that HEPA filters effectively remove "lung damaging dust" from ambient air. An HEPA filter that removes dust particles greater than 0.3 microns will effectively create a dust free atmosphere. Further support for the fact that Applicants' examples 1 and 2 are in a dust free atmosphere can be found in the Fox reference itself on page 9, lines 4-35, where there is a discussion of treating dust particles with a charged aerosol substance and it is mentioned that the dust particles actually tested range between 2 and 5 microns. HEPA filters are not used in the test reported in the Fox reference. However, when HEPA filters are used – as in the examples in the instant application – they create an essentially dust-free environment.

Examples 1 and 2 of the instant application, although they do not provide any side-by-side comparison with the prior art, show clearly that the use of Applicants' methods enables the user to effectively control airborne microorganisms that are not attached to dust particles. The practical effect of Applicants' claimed invention is greater efficiency in controlling microorganisms in airborne spaces because Applicants are

providing a method of control for those microorganisms that are not attached to dust particles, as well as for those that are attached to dust particles.

With respect to the Fox reference, it is again pointed out that said reference involves precipitation of airborne dust particles. In contrast, Applicants' claimed invention is directed to a method for combating microorganisms and viruses in which they are deactivated by a disinfecting and sanitising composition whilst the composition is still airborne. Precipitation is not part of Applicants' claimed methods. Of course, if the airborne dust particles in the Fox reference include microorganisms and/or viruses, they will be precipitated by the disinfecting or sanitising composition used in Applicants' claimed methods. This is essentially acknowledged by Applicants in the paragraph beginning at page 6, line 4, of their specification. However, not all microorganisms and viruses are associated with dust particles and it is against these microorganisms and viruses that Applicants' claimed methods are directed. These methods are not taught in the Fox reference and would not have been obvious over anything taught by Fox.

To support her rejection of Applicants' claims, the Examiner has turned to the McCue patent. McCue was used originally for its disclosure of antimicrobial compositions containing essential oils having antimicrobial properties, and also for its disclosure of dispensing systems – column 5, lines 44-64 – which would include pump sprays and aerosols. Applicants previously pointed out that the McCue compositions are specifically intended to be used on hard surfaces and that there is no teaching anywhere in McCue that the compositions may be sprayed into an indoor space.

In her response to Applicants' previous, the Examiner says that the intended use of a composition or product – such as, for example, the hard surfaces specified in McCue – is not considered to be a limitation on a compositional product. The Examiner cited the decision in In re Hack, 245 F.2d 246, 114 U.S.P.Q. 161 (C.C.P.A. 1957), but it is submitted that this decision is not relevant to the issues at hand. The Hack decision involved a patent application for composition claims; in the instant case, Applicants'

claims are – as stated in the preamble – limited to methods for "disinfecting or sanitising a space occupied by airborne microorganisms and/or viruses." This language is intended to constitute a limitation on Applicants' claims and the foregoing amendment, which requires that the elimination of airborne microorganisms and viruses while the sprayed out droplets are airborne bears out Applicants' contention that the preamble language in this case constitutes a limitation and has patentable significance. The Examiner's attention is invited to the recent decision of the Federal Circuit in Eaton Corp. v. Rockwell Int'l Corp., 323 F.3d 1332, 66 U.S.P.Q.2d 1271 (Fed. Cir. 2003), which is relevant to the issue of preamble language. A marked-up copy of the decision is here enclosed as Appendix B. In that decision, the Court stated:

> Claim 14 is an example of "the claim drafter choos[ing] to use both the preamble and the body of define the subject matter of the claimed invention,"... as opposed to a preamble reciting an intended use for an invention that is defined in its entirety in the body of the claim... We therefore conclude that the preamble of claim 14 limits the claimed invention

66 U.S.P.Q. 2d at 1278, emphasis in original. We have a similar situation in the instant case where the claimed method is for disinfecting or sanitizing a space occupied by airborne microorganisms. In these circumstances, a method for combating microorganisms or viruses on a surface is not an indication of obviousness.

Therefore, the disclosure of McCue adds nothing to Fox that would aid in supporting a rejection under 35 U.S.C. § 103(a). This rejection should be withdrawn.

Double Patenting Rejection

The claims in this application have been rejected for obviousness-type double patenting over claims 1-6 of U.S. Patent No. 6,199,766 in view of McCue. For reasons previously set forth in the amendment filed on 5 December 2001 and, further, in view of the above discussion with respect to McCue, Applicants continue to dispute the validity

of this rejection. However, in order to advance the prosecution of this application, Applicants are hereby submitting a Terminal Disclaimer over U.S. Patent No. 6,199,766.

CONCLUSION

In view of the foregoing amendment, there remarks and the enclosed Terminal Disclaimer it is submitted that all claims are in condition for allowance. Favorable action is requested.

Respectfully submitted,

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